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The University of North Carolina

RECORD

The Graduate School

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THE UNIVERSITY RECORD

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THE GRADUATE SCHOOL

COMMITTEE

FRANCIS PRESTON VENABLE, PH.D., LL.D., PRESIDENT.
CHARLES ALPHONSO SMITH, PH.D., LL.D., DEAN.
JOSHUA WALKER GORE, C.E.
EBEN ALEXANDER, PH.D., LL.D.
WALTER DALLAM TOY, M.A.

CANDIDATES FOR GRADUATE WORK

Graduates of the University of North Carolina and of other universities and colleges of good standing are, upon application to the President or Dean, ordinarily admitted to advanced courses of instruction, free of charge for tuition. There is, however, a registration fee of twelve dollars and a half. An applicant for admission, unless a graduate of the University of North Carolina, is required to present his diploma and a certificate of scholarship and character. If in any department the preliminary training of candidates has not been sufficient to qualify them for strictly graduate work, they will be required to take such undergraduate courses as may be prescribed by the head of the department; but these courses will not be counted for hours in work leading to a graduate degree.

Students who are not graduates may, if they prove themselves qualified, take graduate courses; but no graduate degree will be given to a student who does not already hold a Bachelor's degree from some institution of approved standing.

All courses must be approved by the President or Dean.

DEGREES

The University offers to graduate students advanced work leading to the degrees of Master of Arts (A.M.), Master of Science (S.M.), and Doctor of Philosophy (Ph.D.).

Master of Arts

Candidates for the degree of Master of Arts must complete satisfactorily one year of graduate work consisting of at least fifteen hours a week of recitations or lectures, eight hours of which must be taken from courses in the Graduate Department, the remaining seven from courses in the Graduate Department or from undergraduate courses open only to Juniors and Seniors. The candidate shall select one major subject and two minor subjects. The course as a whole must have unity and must be pursued with definite aim.

A thesis based on the major subject of study and showing capacity for original research must be submitted on or before May 1 of the given year, and must be filed in typewritten form on or before May 15.

Master of Science

The degree of Master of Science is conferred in the School of Applied Sciences under conditions similar to those stated above for the degree of Master of Arts.

Doctor of Philosophy

A candidate for the degree of Doctor of Philosophy is required to pursue, in residence at the University, a prescribed course of advanced study and research in one major subject and two allied minor subjects. In general a term of three years is required, but the degree may be secured in two years in the case of exceptional preliminary training in the major subject.

These requirements of residence and study are, however, entirely secondary. The degree is conferred not simply for faithful study in a determinate field of work for a prescribed period but because of a high attainment in a special branch of learning, which the

candidate must have manifested not only in examination but by a thesis which gives evidence of independent research and contributes to knowledge. The candidate should choose his major subject in a department in which he has already pursued, for a considerable period, a systematic course of study. To receive this degree, a knowledge of French and German will be found indispensable in most instances. The thesis must be accepted before the candidate may be admitted to examination. The examinations are both written and oral. They demand a minute knowledge of a special field of work as well as a general acquaintance with the department of learning in which the candidate offers himself for the degree.

COURSES OF INSTRUCTION

DEPARTMENT OF GREEK

Professor Alexander.

7. Greek Drama: Euripides, Iphigenia among the Taurians; Sophocles, Oedipus Tyrannus; Aeschylus, Agamemnon; Aristophanes, Clouds; Aristotle, Poetics. *Both terms, three hours.*

8. Prose Composition, advanced course. *Fall term, two hours.*

11. Greek History: the selections from Greek historians in parts I. and II. of Baumeister's *Quellenbuch zur Alten Geschichte. Both terms, two hours.*

12. Bucolic Poetry: the Idylls of Theocritus, Bion, and Moschus. *Both terms, two hours.*

DEPARTMENT OF LATIN

Professor Howe.

5. Pliny, selected letters; Juvenal, Satires; Martial, selected epigrams; reading with special reference to the private life of the Romans at the close of the first century A. D. *Both terms, two hours.*

9. Roman elegiac poets: a detailed study of the lives of Catullus, Tibullus, Propertius, and Ovid, with rapid reading of selected elegies. *Both terms, two hours.*

11. The study of a particular author or period in Roman literature; practice in rapid reading, with translation of the more difficult passages only. *Both terms, two hours.*

Associate Professor Wilson.

12. Lectures on comparative syntax of Greek and Latin; principles illustrated from Homer and Terence. *Both terms, two hours.*

DEPARTMENT OF GERMANIC LANGUAGES

Professor Toy.

4. Middle High German: Paul's *Mittelhochdeutsche Grammatik;* Bachmann's *Mittelhochdeutsches Lesebuch;* translation into New High German. *Both terms, three hours.*

Associate Professor Cobb.

5. Old High German: Braune's *Althochdeutsche Grammatik;* Braune's *Althochdeutsches Lesebuch.* This course alternates with German 4. *Both terms, two hours.*

Professor Toy.

6. Gothic: Braune's *Gotische Grammatik* and Heyne's *Ulfilas.* This course is intended to lay a foundation for the philological study of the Germanic dialects. The journals at the disposal of students of Germanic philology are mentioned below under the department of *English*, pp. 11-12. *Both terms, three hours.*

7. Goethe: Goetz von Berlichingen, Tasso, Dichtung and Wahrheit, Gedichte, Faust. In connection with the interpretation of the texts, the life of Goethe will be studied. Selected chapters of Hermann Grimm's *Vorlesungen*, Scherer's *History of German Literature*, and Francke's *History of German Literature* will be read. *Both terms, three hours.*

DEPARTMENT OF ROMANCE LANGUAGES

Professor Bruner.

3. The History and Theory of French Tragedy; rapid reading of the tragedies of Corneille, Racine, Voltaire, and Victor Hugo; constant reference, for purposes of comparison, to other tragedies, both ancient and modern; lectures and discussions. *Both terms, three hours.*

4. The History and Theory of French Comedy; rapid reading of the comedies of Moliere, Regnard, Marivaux, and Beaumarchais; constant reference, for purposes of comparison,

to other comedies, both ancient and modern; lectures and discussions. *Both terms, three hours.*

5. Old French Language and Literature, with special reference to the French element in English; rapid reading of Old French texts; lectures on the history of French sounds and inflections. *Both terms, two hours.*

To be omitted in 1908-1909.

DEPARTMENT OF ENGLISH

The resources of the Graduate Department of English have been greatly increased by the enlightened generosity of Mr. Eugene M. Armfield, of High Point, N. C., an alumnus of this institution, who has put at the disposal of the Department the annual sum of three hundred dollars for the purchase of books, pamphlets, journals, and other special studies in advanced English.

Candidates for the degree of Doctor of Philosophy who elect advanced work in the English language as their major subject will be expected to take one or more courses in the Germanic languages. All graduate work in the English language presupposes English 6, or its equivalent, and a reading knowledge of German; but, in exceptional cases, English 6 and German A may be taken along with the English graduate courses.

Associate Professor Royster.

7. Advanced studies in (a) Old English and (b) Middle English. (a) Wyatt's or Heyne's *Beowulf*, Thomas Arnold's *Notes on Beowulf*, Forster's *Beowulf-Materialien*, and the discussion of the Beowulf Saga in volume III. of the *Grundriss der Germanischen Philologie*. (b) Skeat's edition of Chaucer's *Minor Poems* and *Legend of Good Women*, Book IV. in volume II. of Ten Brink's *History of English Literature*, with selected chapters from Lounsbury's *Studies in Chaucer*, and Ten Brink's *Language and Metre of Chaucer*. *Both terms, two hours.*

8. English Literary Criticism: a discussion of the function, aim, and method of literary criticism and the relation of

criticism to creative literature. The emphasis of the course will be upon the development of literary criticism in England, foreign influence on English criticism, and the relation of the critical standards of the various periods of English literature to literary production. There will be assigned readings in the great critics from Plato to Pater. Vaughan's *English Literary Criticism*. *Both terms, two hours.*

Professor GRAHAM.

10. Romanticism 1789-1830. Extensive readings in Wordsworth, Coleridge, Scott, Byron, Shelley, and Keats, with some consideration of Southey, Lamb, Jeffrey, Jane Austen, Leigh Hunt, DeQuincey, and Hazlitt. Lectures on the various phases of the Romantic revival. *Both terms, two hours.*

13. English Literature 1690-1789: lectures and study of special texts. Topics discussed during the first term: the rise and culmination of Classicism in poetry, the development of prose; during the second: the decline of Classicism and the beginnings of Romanticism. *Both terms, two hours.*

Professor SMITH.

12. English Syntax. Problems in advanced grammar will be studied historically. The course will consist chiefly of lectures; Sweet's *Syntax* (volume II. of his *New English Grammar*), Smith's *Studies in English Syntax*, Kellner's *Historical Outlines of English Syntax*, Einenkel's *Syntax* (in volume I. of the *Grundriss der Germanischen Philologie*), and recent theses on questions of syntax. *Both terms, two hours.*

14. English Poetry 1830-1905: lectures and studies of assigned texts. The work will be based upon representative selections from Tennyson, Robert Browning, Arthur Hugh Clough, Rossetti, Matthew Arnold, Swinburne, William Watson, and Kipling. *Both terms, two hours.*

Among the publications accessible to graduate students of English and German may be mentioned: *Anglia und Beiblatt*, (complete set), *Englische Studien*, (complete set), *Herrig's Archiv, Paul und*

Braune's Beitraege (complete set), *Publications of the Modern Language Association of America, Modern Language Notes, Modern Language Review* (London), *Dialect Notes, Publications of the Early English Text Society* (complete set), *Journal of English and Germanic Philology.*

DEPARTMENT OF PHILOSOPHY

Professor WILLIAMS.

5. Epistemology: a study of the Critical Philosophy; lectures; theses. First year: Prolegomena and Practical Reason and the works that prepared the way for Kant. Second year: *Kritik der reinen Vernunft. Both terms, three hours.*

DEPARTMENT OF HISTORY

Professor RAPER.

9. Seminary: lectures and reports on certain phases of American history; discussions of the ideals and methods of original research. *Both terms, two hours.*

Associate Professor HAMILTON.

10. Civil War and Reconstruction: lectures and research in the history of the Civil War and Reconstruction. *Both terms, two hours.*

14. American Politics: research in the history of the political parties in the United States. *Both terms, two hours.*

Associate Professor WAGSTAFF.

13. The American Constitution: research in the history of the Constitution of the United States. *Both terms, two hours.*

DEPARTMENT OF ECONOMICS

Professor RAPER.

3. Economic Institutions and Thought in England and the United States; a general study, largely from the historical point of view, of the economic institutions and systems of economic thought in England and the United States; a

special study of socialism. Lectures, readings, and reports. Cheyney's *Industrial and Social History of England*, Brooks's *The Social Unrest*, Spargo's *Socialism*. *Both terms, two hours.*

DEPARTMENT OF MATHEMATICS

Professor CAIN.

4. Calculus; Analytic Mechanics; prerequisite, Mathematics 2. *Both terms, three hours.*
5. Theory of Equations (Burnside and Panton). *Both terms, three hours.*
6. Differential Equations (Murray). *Both terms, three hours.*
15. Advanced Differential and Integral Calculus (Byerly, Edwards); lectures. *Both terms, two hours.*

Associate Professor HENDERSON.

7A. Hydraulics, Sanitary Engineering. *Both terms, three hours.*
8. Mechanics of Materials; prerequisite, Mathematics 4. *Both terms, three hours.*
10. Stresses in Bridges and Roof Trusses; Graphical Statics; prerequisite, Mathematics 4. *Both terms, three hours.*

Associate Professor STACY.

7. Railroad Surveying and Railroad Engineering. *Both terms, three hours.*

DEPARTMENT OF PHYSICS

Associate Professor LATTA.

6. Thermodynamics. This study is based on Edser's *Heat for Advanced Students*, Ewing's *Steam Engines and Other Heat Engines*, and Peabody's *Thermodynamics of the Steam Engine;* prerequisite, Physics 1 and Mathematics 2. *Both terms, three hours.*
7. Alternating Currents and Alternating Current Machinery; testing and study of alternating current machines in the laboratory; lectures and problem work. Text books:

Franklin and Williamson's *Alternating Currents* and Hay's *Alternating Currents;* prerequisite, Physics 1 and 4A. *Both terms, four hours.*

9. Electric Power Transmission. *Spring term, two hours.*

10. Electric Testing; experimental study of electromagnetic machinery and other apparatus; prerequisite, Physics 7. *Both terms, three hours.*

DEPARTMENT OF CHEMISTRY

Professor Herty.

11. Research in Inorganic and Analytical Chemistry. This course (with 12 and 13) is intended only for applicants for the degree of Doctor of Philosophy or properly equipped students who desire special training in advanced chemical research. It requires, in addition to the laboratory work, daily conferences with the professor and continual reference to the literature touching the matter under investigation. The work is usually assigned by the professor, but by special permission the student may elect to work upon problems to which he wishes to give particular attention. *Both terms, six hours.*

Associate Professor Wheeler.

12. Research in Organic Chemistry. The statements made in regard to course 11 apply also to this course. *Both terms, six hours.*

Associate Professor Mills.

13. Research in Physical Chemistry. Acquaintance with the Calculus is required for this course. *Both terms, two hours.*

Professor Herty.

14. Advanced Inorganic Chemistry. The elements are studied with the idea of showing the fundamental laws of Chemistry and the deepseated relations involved in and leading

up to the Periodic System. Attention is also given to those portions of Inorganic Chemistry not usually dwelt upon in the regular courses. The applications of physico-chemical laws and generalizations are emphasized throughout the course. *Both terms, two hours.*

Associate Professor Wheeler.

15. Advanced Organic Chemistry. The most important modern investigations are reviewed and, in addition, special consideration is given to Class Reactions with reference to their application to organic research. *Both terms, two hours.*

The *Journal Club* meets fortnightly. The current journals, American, English, German, and French, purely scientific and technical, are reviewed by the students and instructors. Attendance upon the meetings of the Club is expected of all students taking the above courses.

DEPARTMENT OF BIOLOGY

Zoology

Professor Wilson.

2. Comparative Anatomy and Embryology of the Vertebrates; study of types of fishes, amphibia, reptiles, birds, mammals; development of the characteristic vertebrate organs in the frog and chick; fundamentals of microscopic technique; laboratory work with occasional lectures. *Both terms, three hours.*

3. Comparative Anatomy and Embryology of the Invertebrates; dissection and microscopic study of types of the chief orders, with some consideration of their embryology; laboratory work with occasional lectures. *Both terms, three hours.*

4. Animal Morphology: advanced zoological work, with detailed study of problems in comparative anatomy or embryology; laboratory work with use of classical text books and original memoirs; theses. *Both terms, five hours or more.*

Botany

Associate Professor Coker.

2. Special morphology of the mosses, ferns, and higher plants, with particular consideration of homologies; lectures with laboratory and field work. *Both terms, three hours.*

3. Special Morphology of the algae and fungi, with attention to the culture of lower fungi, and the identification of mushrooms; lectures with laboratory and field work. *Both terms, three hours.*

4. Plant Morphology; advanced work in the embryology and anatomy of plants. The student is required to collect and prepare material for the microscopic study of special problems. Theses. *Both terms, five hours or more.*

DEPARTMENT OF GEOLOGY

Mr. Eaton.

5. Petrography; lectures, laboratory work, and theses. *Both terms, three hours.*

Professor Cobb.

6. Advanced field work and special research in geology and geography; problems assigned individually and work adapted to the professional needs of the student. *Both terms, three hours.*

9. Research course in historical geology. *Both terms, three hours.*

DEPARTMENT OF EDUCATION

Pedagogy

Professor Noble.

5. The study of childhood in transforming modern methods of studying and teaching educational science; readings, discussions, and theses. *Fall term, two hours.*

6. Herbartian Pedagogy. The attempt is made in this course to investigate the Herbartian movement in Germany and

in the United States. The works of Rein, Story, Ziller, Lange, and others are studied. Theses. *Spring term*, *two hours*.

7. American Education: a study of the development of public and private school systems in the United States; research and lectures. *Both terms*, *two hours*.